GRUMMAN plane news

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Sun watcher

Solar Maximum Mission Observatory Satellite will be launched on February 14. It will share the sky with Grumman's Orbiting Astronomical Observatory satellite (shown here at left). Both are managed by a Grumman team at the NASA Goddard Space Flight Center, Greenbelt, Md. *Story on pg. 3.*

Future reference. *Canadian Armed Forces pilots, Captains Glenn Robertson (R) and Mike MacDonald, check out the CH-135 helicopter configured suitcase emergency procedures trainer at Bethpage. On their way home, they were forced to use one of the procedures when they lost fuel boost pump in flight.*

Home again, thanks to trainer

Have SCEPTR, will travel . . . safely some pilots might add.

Training on SCEPTR, Grumman's suitcase emergency procedures trainer, proved its worth to Canadian Armed Forces pilots, Captains Glenn Robertson and Mike MacDonald.

While assisting in the evaluation of a CH-135 helicopter configured SCEPTR two weeks ago, the two Canadian pilots demonstrated various emergency training procedures during an hour at the trainer in Bethpage.

Homeward bound, the pilots experienced a failure like one they had just practiced on the trainer when they lost a fuel boost pump. "I just said to myself, 'this is how I'd do it on the SCEPTR,' " reflects Robertson. Following the recently practiced emergency routine, Robertson and MacDonald handled the situation expeditiously. And an uneventful, but safe landing at their home base followed.

More to come

To date, Grumman has delivered a total of 46 SCEPTRs to the Canadian Armed Forces, the U.S. Navy and the Brazilian Air Force. Late last month, the Navy placed a $2.2-million order for 36 Grumman suitcase emergency procedures trainers.

Awarded by the Naval Training Equipment Center (NTEC), Orlando, Florida, the contract calls for four configurations of the trainer, to be used with the SH-2F, UH-46, SH-3H and RH-53D helicopters. Deliveries will start in March 1981 and continue at a rate of three a month, reports Art Sholinsky, SCEPTR program manager.

SCEPTR is a low-cost trainer used by pilots to improve their proficiency in coping with emergency situations. The suitcase trainer, weighing about 65 pounds, consists of a half-scale replica of the pilot's control panels, arranged to closely represent the cockpit configuration. Reduced-size switches and displays associated with emergency procedures covered by the trainer are mounted in their proper positions.

The Grumman designed and built trainer provides three operating modes: train, quiz, and random.

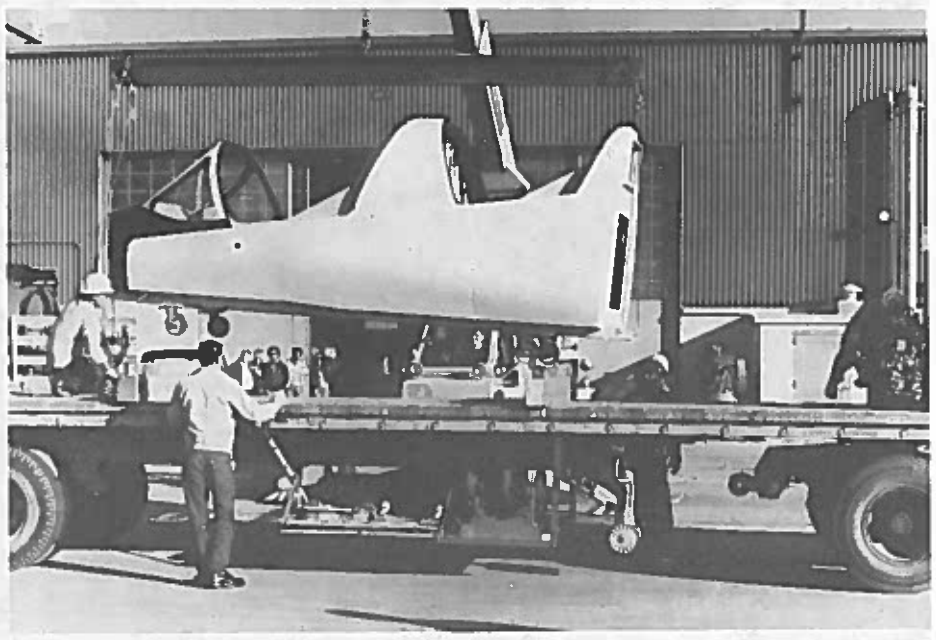
During a training session, a pilot is led through a step-by-step routine by a series of green "cue" lights. When ready to test himself, the trainee merely switches from "train" to "quiz" and the cue lights disappear. If the pilot makes a mistake, the suitcase trainer posts an "E" for error and counts the number of errors until the procedure is completed.

In cases where time is a crucial element, the trainer evaluates the trainee's response. If the response is not adequate, SCEPTR "crashes."

When in the "random" mode, SCEPTR selects and presents an emergency situation with no forewarning — giving the trainee "real world" skill training.

Aside from the recent contract for SCEPTR in helicopter configurations, the Navy is also interested in SCEPTR for fixed wing aircraft such as the F-14, A-6, A-7, and F-18.

Hearty welcome. *George Skurla, chairman and president of Grumman Aerospace, welcomed members of CAMMACORP to the recent program review hosted by Grumman in Plant 5. In the background stands a mockup of the nacelle that Grumman is building under contract to CAMMACORP for re-engining McDonnell-Douglas DC-8 airliners.*



Moving in. *At Point Mugu, California, workmen recently installed the frame for the EA-6B systems integration test station. Under a Navy contract, Grumman will design and fabricate the EA-6B weapon system support laboratory (WSSL) which is similar to the Grumman-developed F-14 SITS (system integration test station) which has been serving the test center community for over 10 years. WSSL is a replica of the EA-6B forward module including cockpits, instrument panels and complete avionics systems. The test station allows engineers to check out entire avionics packages on the ground before going to the more costly flight test stage.*

Sun satellite

Solar Max ready for February 14 launch

Scientists have studied the sun for centuries, seeking to unravel its mysteries of light and energy.

The Solar Maximum Mission observatory satellite is the latest effort in that quest.

A project of the NASA-Goddard Space Flight Center in Greenbelt, Maryland, Solar Max will circle the earth every 90 minutes in a 300-mile high orbit. It will record data, measuring and predicting solar activity.

Grumman Aerospace will manage all of Solar Max's operations in orbit, working from the Operations Control Center and the Experiment Operations Facility at Goddard.

According to Joseph Rothenberg, Grumman's Solar Maximum Mission program manager, the 22-person Grumman team has been in high gear for several months preparing for the launch date.

"There are a number of variables in determining just when that will be, but the earliest possible launch date is February 14," says Rothenberg.

Early test completion

"We've just completed a test program to evaluate our flight readiness for NASA," says Rothenberg. "We had allotted about 72 hours for the demonstration, but we completed all our primary test objectives in just under 30 hours. We've identified the loose ends that need to be taken care of and we're ready for the final push."

Grumman was selected for the contract because of its experience with multi-mission spacecraft, particularly managing the OAO (Orbiting Astronomical Observatory) program at Goddard. The OAO-3 Copernicus, designed to last only one year, is now in its eighth year of orbit.

Retrieval by Shuttle

Solar Max will be launched from the Kennedy Space Center/Eastern Test Range in Florida. When its one-year mission is over, the Space Shuttle will bring it back to earth. It is the first spacecraft designed for retrieval by the Shuttle.

A multi-mission spacecraft, Solar Max contains seven experiments — instruments — to monitor various facets of solar activity. The Grumman team will work with the 20 scientists in charge of these experiments, scheduling and planning each day's projects. They will be in real-time contact with Solar Max for a 10-minute "window" on every 90 minute orbit; information recorded during the remaining 80 minutes is dumped back to Earth every few hours.

"The focus of attention will be on solar flares," says Rothenberg. "Solar flares are explosions on the surface of the Sun with a tremendous, rapid release of energy. This energy is measured in ergs, about 10 to the 30th power — roughly 100 times the total annual electric power demand of the U.S.

With their enormous energy output, solar flares can affect satellite trajectory and interfere with radar systems and electronic communications; they also affect our weather patterns.

"With the aid of Solar Max, we hope to gain a better understanding of the mechanism of these flares."

Since the time of Galileo, scientist have observed the phenomenon of sunspots, dark marks on the face of the sun. The spots vary in number, becoming more numerous, peak at some point, and then diminish. The cycle repeats itself roughly every 11 years.

Peak activity

When the sun has the greatest number of spots, solar activity — the number of solar flares — is also at a peak; and this, explains Rothenberg, is the condition of the sun in the 1979-1981 period.

"It's a fascinating project, and all of us are very excited about it," says Rothenberg, describing 12 and 16 hour work days and a staff that has taken only two days off in the past month and a half. "It's the challenge, the pressure of knowing that everything you do has to be exactly right."

Once Solar Max is launched, the Grumman team will split up into three shifts, providing around-the-clock coverage.

New Zealand dome. *A full-scale model of the Grumman-built Lunar Module is to be housed in this geodesic dome now under construction at the Ferrymead Historical Park in Christchurch, New Zealand. When the dome is completed, the model will be painted to look like one of the eight LMs that went on the Apollo series of missions to the moon. Its neighbors in Ferrymead Park will be steam trains, early fire engines, and old-time electric trams.*

Energy awareness displays

The special Energy Awareness display will tour every major Grumman Aerospace location along the East Coast during February. Plan to visit the display when it comes to the cafeteria or buffeteria nearest you, and ask the representative from Energy Conservation Services how you can conserve energy at home and at work. Here is the schedule:

Feb. 8	Pl. 30
11	Pl. 35
13	Pl. 40 (Melville)
15	Pl. 43 (Great River)
20	Pl. 6 (Calverton)
21	Pl. 7 (Calverton)
25	Pl. 25 (Stuart)
27	Pl. 66 (Milledgeville)
29	Pl. 56 (Glen Arm)

GRUMMAN plane news

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PDOC

When you ask anyone in the Product Development Operations Center, "What's new?" be ready for a long answer.

Fusion energy . . . forward-swept wings . . . vertical/short takeoff aircraft . . . major changes to existing aircraft . . . manned remote work stations for use in outer space. These are just a few PDOC projects that may form the Grumman look of the future. If Grumman will be building it in 1990, chances are PDOC is working on it right now.

Established in 1975, PDOC has enjoyed strong, steady growth and now works in 300,000 square feet of office and manufacturing space in Plant 5. It has a reputation enviable in the industry for producing one-of-a-kind items, prototypes, and special products quickly and efficiently.

duce a prototype without disrupting other work that was going on. However, today's aircraft and special products are more complicated and more sophisticated; they cannot be wedged into ongoing programs without throwing that work off schedule. PDOC offers a dedicated environment for the small but vital project.

Grumman had attempted a PDOC several times in the 15 years prior to 1975; none of the attempts were completely successful. However, much was learned from those aborted attempts and a careful five-year plan was put into effect for the evolution of the present structure.

Part of PDOC's charter is a set of streamlined ground rules. Paperwork, documentation, and customer-management reviews are kept to a minimum. A great deal of time and money are saved by eliminating the red tape.

"Say we wanted to get this thing painted," says Grossman, tossing a small metal object from one hand to the other. "It's only a small part, shouldn't take very much time at all. But without a PDOC, I wouldn't be able to get it from this plant to the next without a pile of paperwork. And once it got there it would require special attention and interrupt the work already in progress.

"Now, when you're talking about full-scale production, you need the paperwork to keep track of people and materials and requirements. But it's not efficient for small or special projects. PDOC provides a simpler way to get a small job done."

"Having a PDOC greatly enhances our competitive position," says Executive Vice President-Operations, John O'Brien. "It enables us to reduce our costs and get the job done in the shortest time possible. Our customers are very much aware of this capability . . . and not just our DOD customers. PDOC is a big selling point in our commercial efforts as well."

PDOC is unique in that it is autonomous: it can operate almost as a company within a company. It has, within one organization, start-to-finish capabilities from drawing board to final assembly and test. An obvious advantage is that people in all skill categories have easy access to one another for problem solving through all stages of a project.

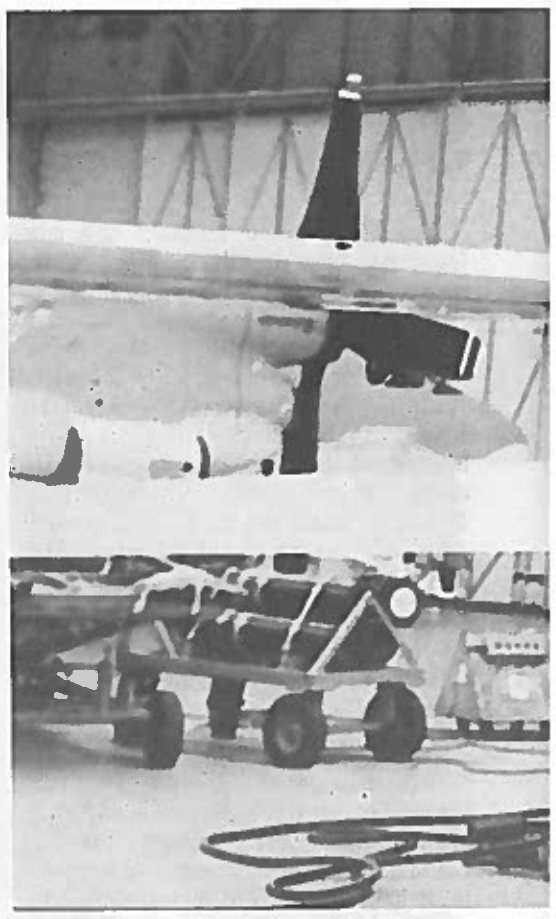
'PDOC is an integral part of Grumman's drive for new business'

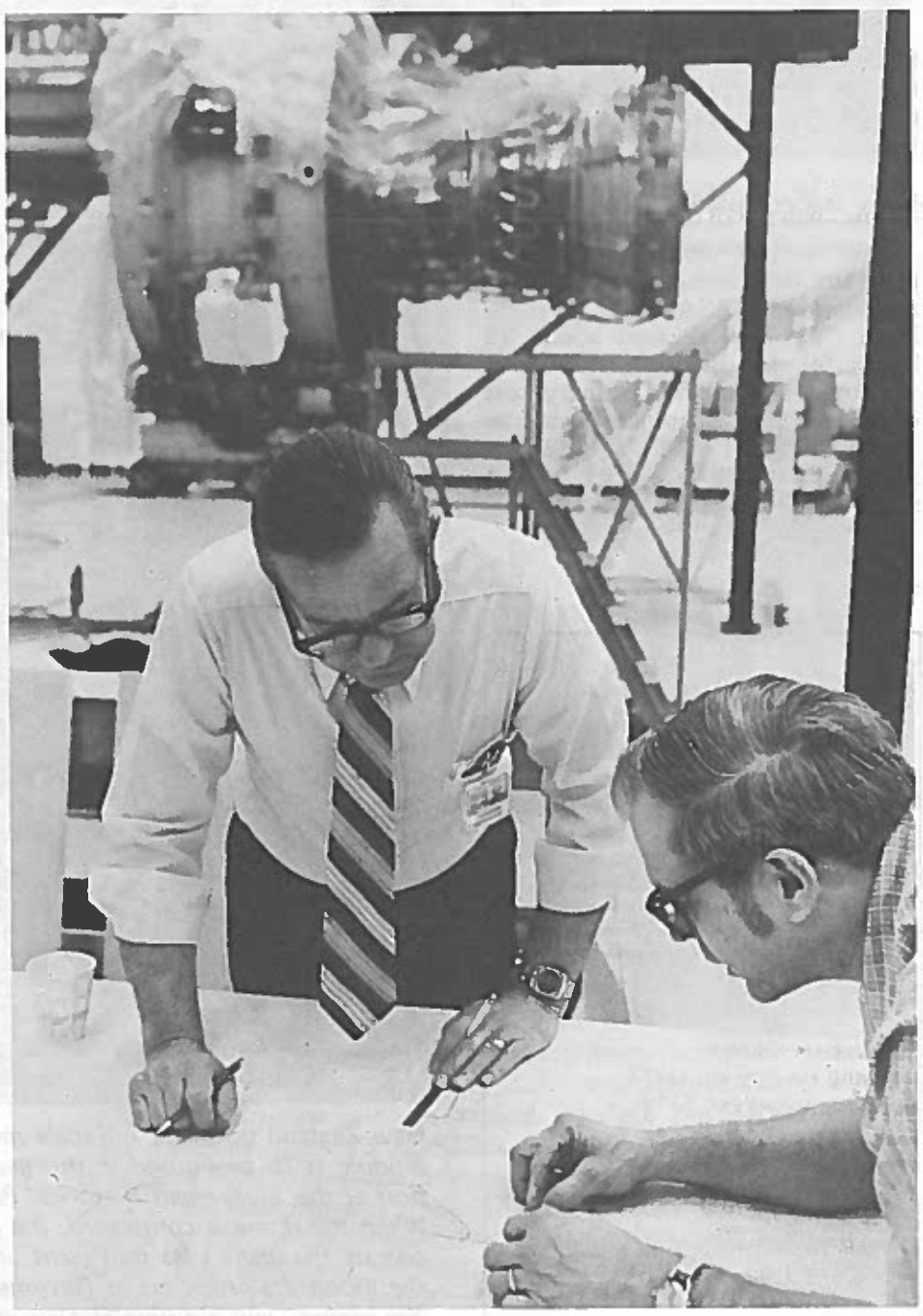
"PDOC is an integral part of Grumman's drive for new business," says Mike Pelehach, Executive Vice President for Business Development, Advanced Systems and Marketing.

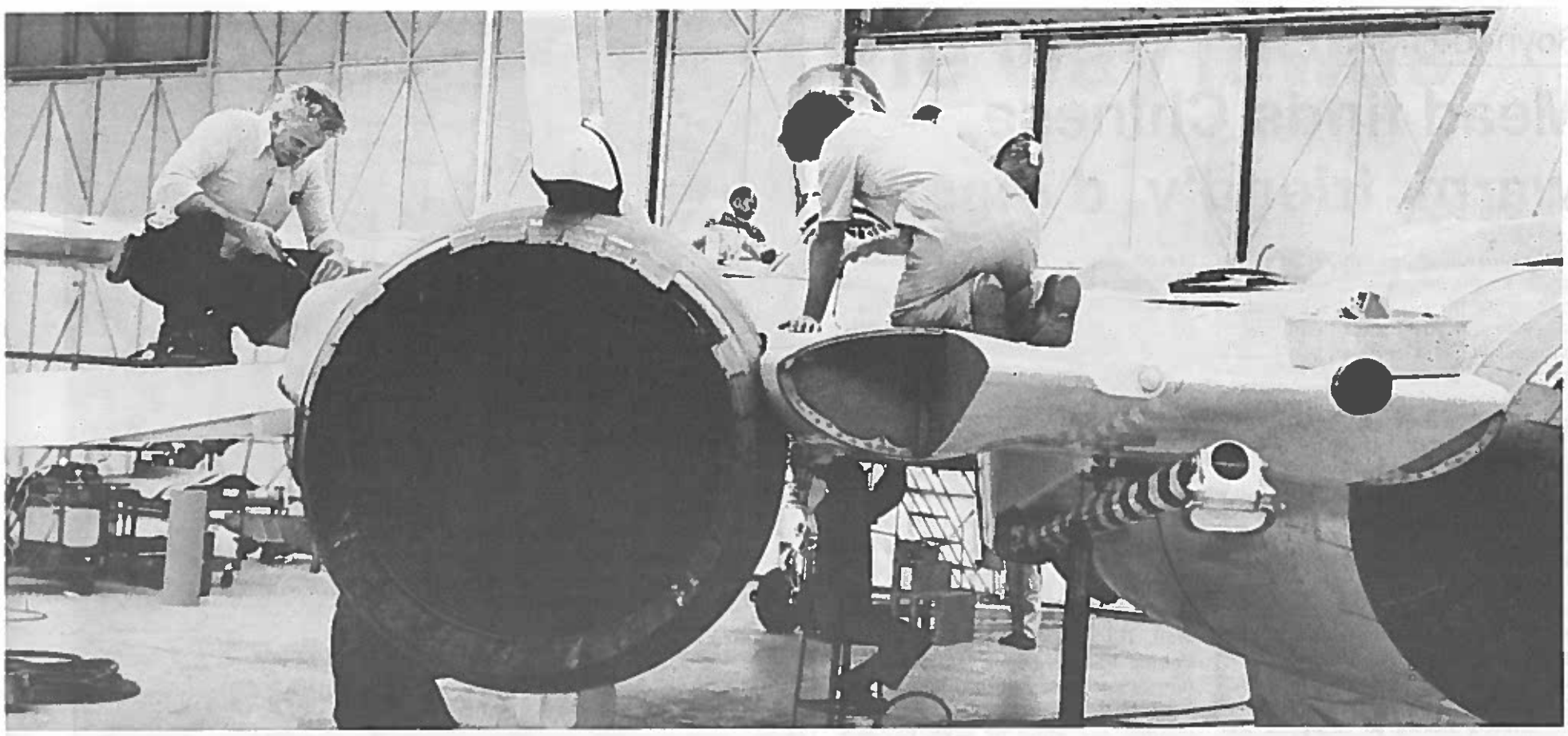
"Within one organization, we can address any project from the research and exploratory development phases right through system analysis, design, fabrication, and test of a prototype or demonstrator. In other words, we can turn ideas into hardware."

"The company recognized years ago the need for this sort of organization," says PDOC's general manager Herb Grossman. "There had to be a way to accommodate the Department of Defense's fly-before-buy trend. DOD wanted to minimize financial risk before spending big money on production; they wanted prototypes that would be representative of the production product."

In the early days of the company, it was still possible to pro-







Ed McNally, deputy general manager of PDOC, explains that PDOC has its own set of management procedures, too — techniques geared to the special needs of the organization.

"In the beginning of each program, when cost and schedule are being estimated, the project is broken down into any number of detail tasks. The tasks are then assigned to specific individuals who have complete responsibility for them" says McNally.

All this information is displayed in the PDOC Management Center on wall-sized charts that fill up the room.

"There's a fine line between being autonomous and being left to shift for yourself," Grossman explains. "When you need help from the functional departments, you want a quick response . . . and yet you must not be disruptive. You can't rock the boat too much.

"We looked at other companies who had set up PDOC's — especially aerospace companies. One in particular had such a free rein that if they needed people from some other area, they simply took them . . . no matter what the consequences. It created resentment and lost support from all areas.

'It gives each job 100 percent visibility, making it easy to spot problems'

"It gives each job 100 percent visibility, making it easy to spot problems as soon as they start to surface," says McNally. "And having cost, schedule, and performance tied to the name of the individual responsible for it makes management much easier."

PDOC has had, from its inception, full cooperation from and access to Grumman's research, manufacturing, engineering, and development facilities and personnel — while still maintaining control of each project.

A PDOC must suit the specific personality of a company, Grossman points out. It should not compete with other areas in the company, but complement them.

"We're not in the production business," he says. "It's our role to develop new products, and then pass them on."

PDOC has been selective about the projects it has taken on, keeping to things that are mainline to Grumman's business.

In accordance with this, PDOC has the flexibility to increase or decrease in size in response to work loads. It maintains a core of about 300 people, and borrows up to a thousand or more from other areas.

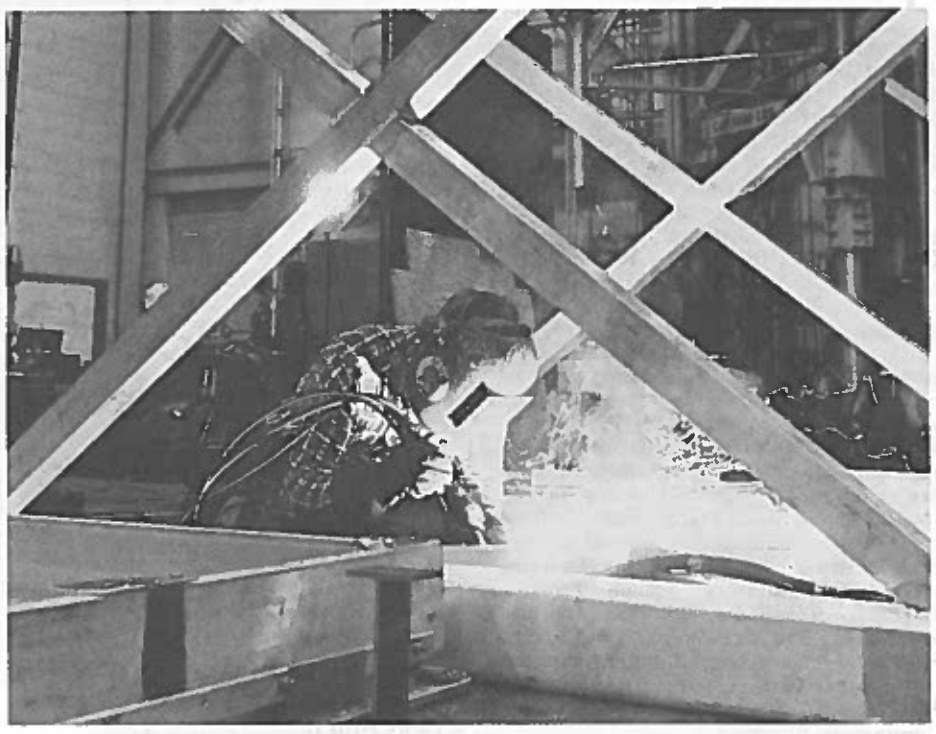
"Because PDOC has high visibility, it sometimes seems that it gets all the credit for jobs done as a team," says Grossman, "and PDOC is only one member of that team."

PDOC is aided by Bethpage Operations, Calverton Operations, Great River Operations and the various functional departments (Engineering, Manufacturing, etc.) who supply appropriate skills when needed, and also review PDOC programs to make sure they're on course.

"And the Business Development Advanced Aircraft Systems Department wins the key technological programs," Grossman adds, "such as V/STOL or RGWS (Radar Guided Weapons Systems), and then provides us with the people to help implement the hardware phase."

It takes roughly 15 years to get an airplane from the drawing boards into the skies. And as other Grumman programs reach maturity, PDOC is gearing up for the next generation of aircraft. Grossman is confident that Grumman has the imagination, the talent, and the drive necessary for that task.

"Grumman's ready for another major program . . . a full-scale, full-up airplane," he says. "And PDOC will be an important part of the development. We've got our pencils sharpened."



Boyhood home

Mead finds Chinese warm, friendly, dynamic

Many adults who find themselves far from the neighborhoods where they grew up often have thoughts of returning to their childhood haunts "just to see what it's like now."

For Larry Mead, Senior Vice President-Departmental Operations, 42 years passed before he had a chance to return to the neighborhood and the country where he grew up — the magical city of Peking, now called Beijing, in the Peoples Republic of China.

Mead first went to China as an infant with his parents; his father was an educational missionary who taught English at Yen Ching University in Peking. About half-way through high school, he returned to the United States to complete his education. The last time he was in China was the summer of 1937.

This past fall, Mead's dream of returning to the fabled city came true when Jack Bierwirth, Chairman of Grumman Corporation, received an invitation from the Chinese government's Third Machinery Bureau to visit that country. In addition to Mead, Bierwirth asked Fuh-Lin Wang of Integrated Logistics Support to accompany him.

Childhood haunts

Between business and technical discussions with Chinese officials, Mead was able to find time to see many of the famed tourist sites that he had carried in his memory since childhood — the Ming tombs, the Great Imperial Palace, the Great Wall. He also went back to his old Peking neighborhood and found his family's former home. Many things have changed, and many have remained the same he says, explaining, "The people are still friendly, open and warm. Their environment is now more dynamic and they all seem to have more of a sense of purpose." He found that with practice, his fluency in the language returned.

In the midst of the Peking visit, Mead received an invitation from the Third Machinery Bureau to visit Shenyang, a major city in Manchuria. The Bureau is the governmental agency which has the responsibility for China's aeronautical industry, and their invitation was to visit a factory where they build fighter planes. "What impressed me most about the plant" says Mead, "was that it was very well laid-out, very efficient. And, unlike American aircraft works, this factory made almost every single part that went into the plane."

Later he was told that he was probably only the second American ever allowed to see the inside of that factory.

Back in Peking, Mead had the opportunity to meet the president of China's National Aeronautical Society who is also president of the 4,000 student body Beijing Aeronautical Institute. It turned out that he had once been a student of Mead's father.

Return visit

As a result of the talks between Grumman and representatives of the Peoples Republic, Mead and five other Grummanites have been invited to China for two weeks in April to give a series of technical lectures.

Those once remote thoughts of returning to China are turning into a recurring dream come true.

Memorable visit. *Senior Vice President Larry Mead poses with citizens of the People's Republic of China during his recent trip to Peking. Mead spent part of his childhood in Peking where his father was an educational missionary.*

obituaries

WILLIAM KRICH of Stockrooms, Pl. 5, died Jan. 23 at the age of 60. He had been with the company since 1964 and resided at 3941 Miller Place, Levittown.

DONALD BROWER of Small Parts Fab., Pl. 2, died Jan. 24 at the age of 34. He had been with the company since 1945 and resided at 1077 Robin Road, Franklin Square.

appointments

Among those who recently received changes in assignments were: DEPARTMENTAL OPERATIONS — Norman Tetenman, group head, Illustrating, Publications, Pl. 15; Mike Anselmo, group leader, Test and Integration; Charles Johnson, group leader, Systems and Peripheral Modes; Joe McCarthy, group leader, Software Development Facilities, all from Pl 31; Curtis Van Valkenburgh, acting section head, Power Plant and Environment, Pl. 35; John Kirwan, project manager, Equipment Technology, EF-111A, Pl. 40; FIELD OPERATIONS — Stephen Dekrone, site manager, NAS Norfolk, Pl. 94; John Ryan, group head, Airframe Systems, Pl. 35; GREAT RIVER OPERATIONS — Robert Chapman, group leader, Production Status and Control; Kenneth Clausey, group leader, Production Status and Control; Ira Morgan, manager, Proposal Operations/Business Planning; Al DeBello, supervisor, Resources; Joseph Troiano, manager, Resources; Thomas Rabbitt, supervisor, Proposal/Preparation, Commercial and Inventory Planning; Andrew Gura, supervisor, Ground Support Planning; Louis DeGeorge, group leader, Commercial Planning

Contract briefs

Grumman Aerospace was recently awarded an $8.5-million contract for continued weapon system support at Point Mugu, California. The contract will provide Naval Air System Command and the Navy's Pacific Missile Test Center with continued development of the F-14A airborne tactical software program, weapon system flight testing and support of F-14 aircraft at Point Mugu.

Grumman's Great River facility will be working on a $1.75-million contract from International Business Machines' Burlington, Vermont division for automated test equipment. The award extends a 1977 contract for electronic systems used to test semiconductors during manufacture.

In addition, Grumman will perform a $250,000 study for space based radar systems analysis; the 18-month contract was awarded by the U.S. Air Force Rome (New York) Air Development Center.

calendar

AIAA: Thurs., Feb. 14, Antun's, Hicksville, 5:30 p.m.; dinner meeting. Guests welcome. G. Wagnell, Ext. 4586

American Production & Inventory Control Society: Tues., Feb. 19, Musicaro's, Melville, 6:30 p.m., dinner, 8:00 p.m., speaker (no charge). Technical presentation: "Inventory Record Accuracy." Guests welcome. N. Heilweil, Ext. 2250

American Society of Mechanical Engineers: Tues., Feb. 12, Antun's, Hicksville, 6:30 p.m.; dinner meeting. Guests welcome. Thurs., Feb. 14, Stony Brook University, Stony Brook, 7 p.m., Prof. Thomas Irvine, "Effect of Drag Reducing Additives on Heat Transfer." Guests welcome. H. Wicker, Ext. 5422

ASHRAE: Tues., Feb. 12, Hofstra University Alumni Club, Hempstead, 6 p.m. Guests welcome. A. Rubenstein, Ext. 5712

C.B.I. Vets Association: Fri., Feb. 15, Pl. 28 conference room, 5 p.m. Invited guests and members only. W. Pytlowany, Ext. 8397/R. Fong, Ext. 2484

Clown Club: Tues., Feb. 12, Pl. 3 caf., 4 p.m., introductory clinic. Grumman employees welcome. B. Barth, Ext. 4015

Fencing Club: Wed., Feb. 13, Pl. 30 caf., 4:30 p.m. New members now being accepted, Grumman employees only. P. Chaldaris, Ext. 2009

GACE Flying Club: Fri., Feb. 8, Pl. 28 auditorium, 5 p.m., regular monthly membership meeting. Guests welcome. R. Reisch, Ext. 5967

Grumman Disabled American Veterans Club: Wed., Feb. 20, Pl. 3 caf., 4 p.m., closed business meeting. T. Melia, Ext. 4750

Grumman Toastmasters Club: Wed., Feb. 20, Pl. 25 room C, 5 p.m. Grumman employees welcome. P. Ivy, Ext. 2931

National Secretaries Association: Thurs., Feb. 21, Polish Independent Club, Riverhead, 6:30 p.m., dinner meeting; "The Free Enterprise System." Guests welcome. E. Gaias, Ext. 117-7397

Scuba Divers Club: Wed., Feb. 13, Chateau Restaurant, Wyandanch, 7:30 p.m., general meeting. Guests welcome. P. Craig, Ext. 6814

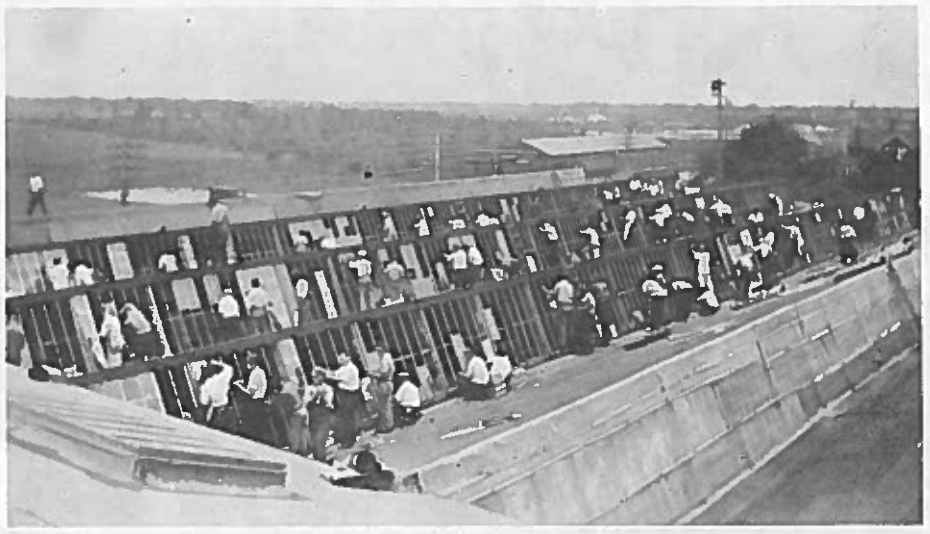
Ski Club: Wed., Feb. 20, Crow's Nest, Farmingdale, 8:30 p.m., regular meeting. Guests welcome. A. Garmendia, Ext. 7819

Society of Manufacturing Engineers: Mon., Feb. 11, Polytechnic Institute of New York, Farmingdale, 7:30 p.m., business and technical meeting. Guests welcome. A. Pinker, Ext. 8880

the way it was

WST review. *Rear Adm. C. Hunter (L), commander of Medium Attack Tactical Electronics Warfare Wing-Pacific Fleet at Whidbey Island, Wash., recently viewed the A-6 Weapons System Trainer (WST) with Grumman's Program Director, Bob Denien, in Plant 31.*

Great River guest. *Rear Adm. Louis Williams, commander of Training Command Atlantic Fleet, Norfolk, Va., tours Plant 44 with Lionel Wellington (L), assistant plant manager, and Ken Walch (R), acting deputy director of Great River Operations.*



Barn-raising in 1935. *Armed with tar paper and glass plates, the Grumman family spent a weekend repairing the 15 rows of skylights damaged by a sudden hailstorm in Farmingdale.*

"It was like a bomb exploding in Farmingdale," recalls one retiree. Adds another, "More like the sky was falling."

Friday, August 1, 1935 is a day that still lingers in the minds of oldtimers at Grumman. On that balmy summer day in Farmingdale, a ominous black cloud drifted over the new Grumman Aircraft Engineering Corporation plant. Without warning, a deluge of hailstones the size of golf balls pummeled the Grumman plant.

The glass in the roof's sawtooth skylights disintegrated in a shattering roar.

"It happened so fast; everyone dived for cover . . . under benches, planes and machinery," reminisces an oldtimer. "There was a wild dash for the wooden-roofed hangar section of the plant."

Three minutes later it was over. Fortunately there were no serious injuries, just some scrapes and cuts. But the manufacturing section of the plant was in shambles.

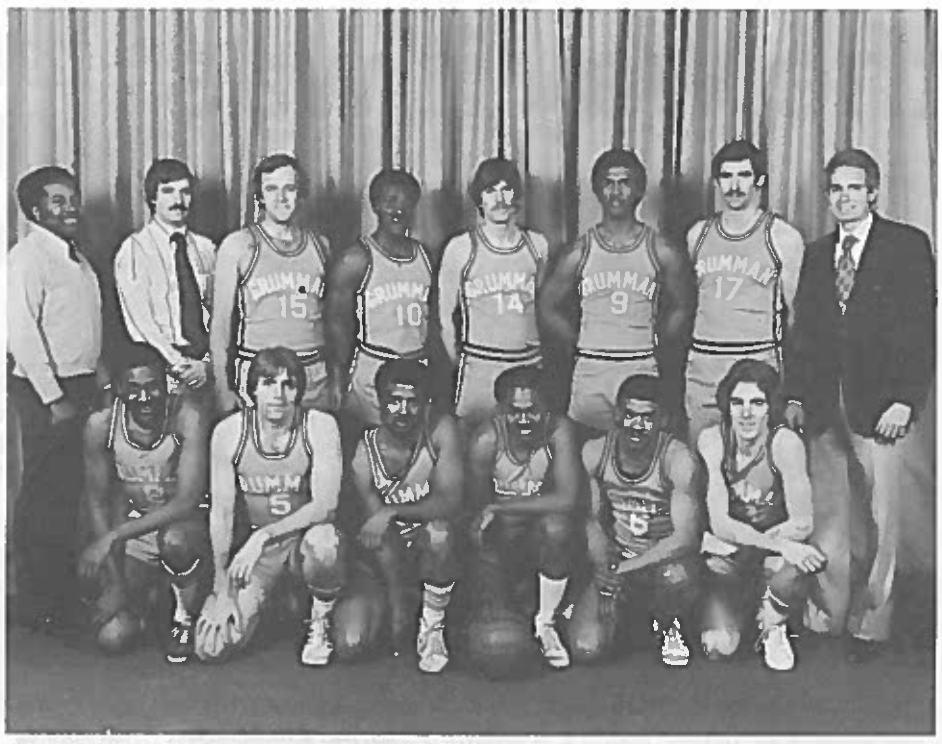
"We all knew we were in trouble; we had to get the production line of amphibians and F2F-1s started up in a hurry," says a Grumman retiree.

That weekend the Grumman family joined forces and spent the next two summer days cleaning up and replacing the glass in the skylights. Many suffered cases of sunburn.

One adventurous mechanic-turned-glazier discovered a carload of watermelons sitting on a nearby railroad siding. Justice triumphed, and the cost of the melons was added to the company's bill for storm repairs.

Today, oldtimers still gloat over that summer of '35 weekend and the watermelon feast.

Program update. *Department of Defense officials visited Grumman recently to review the progress of the conformal radar project in Plant 14. Pictured clockwise are Capt. R. Ong, Dr. John Smith, Cdr. J. Hugo, Cdr. R. Gibson, Fred Ganz of Grumman's Advanced Systems, and Ralph Aurora of Customers Requirements.*



Who can stop them? *The Grumman varsity basketball team is on a 30-game winning streak. Members are (L to R) kneeling — Larry Tarvin, Rich Brown, Rudy Green, Haywood Hammond, Rich Washington, Jim Loeffler; standing — assistant coach Ron Knight, Gary Flynn, Gene Cromwell, Columbus Poole, Paul Knoph, Nate Kelly, Larry Bates, and coach Tony Razziano.*

Hellcats hit 30-0

While many superstitious people fear the number 13, Grumman has found that "13" is a lucky number of players to have on its varsity basketball team. The Grumman "13" have been on a winning streak since the Long Island Industrial league opener in 1977. To date, the Grumman Hellcats have accumulated an unblemished record of 30 wins and zip losses over the three-year period.

Coach Tony Razziano attributes this remarkable record to the constant upgrading of team play. "During the '77-78 season, there was more individual play," reflects Razziano. "But the team possessed potential." That season, they finished 11-0.

Next season, the team began to strengthen its team defense and rebounding; team passing continued to be a weakness. Still the Grumman varsity blew its opposition off the court and finished 11-0.

This year, Razziano reports that the varsity has its total team play in action. To date, they're eight for eight games. Since the team swept two league titles without dropping a game while building its total team play, opponents in 1980 have plenty to worry about.

Grummanites and their families are always welcome at the games which are played at various school gymnasiums on Long Island. In coming weeks, the team will be matched against Daniello & Sons (Feb. 11) and Fairchild (Feb. 19), both at Friends Academy High School in Glen Cove, and against Sperry (Feb. 14) at Mill Lane Junior High in Farmingdale.

For details about the remainder of this season's schedule, contact Razziano, Ext. 5283, or assistant coach Ron Knight, Ext. 7595.

Personals

On behalf of my family and myself I wish to thank our many friends, co-workers and Employee Services for their sympathy and kindness during the recent loss of my mother. Forrest White and Family

We wish to express our gratitude to all of our friends, co-workers and Employee Services for their kind sympathy, concern and prayers at a time when they were sorely needed, following the tragic loss of our son, Robert. Jack Campbell and Family

My family and I wish to thank my friends, co-workers and Employee Services for their kindness and sympathy during the recent loss of my mother. J. E. Morrissey

My family and I wish to express our deepest gratitude to my co-workers and Employee Services for their kindness and sympathy during the recent loss of my father. God bless. Annette B. Conners

We wish to convey our heartfelt thanks and gratitude to Employee Services and my co-workers for their expressions of sympathy during the recent loss of our son. The assurance that people care is most rewarding and comforting. Charles and Nancy Schimmel

D.C. trip

A weekend in Washington, D.C. complete with a visit to the popular sites is the latest excursion available through GAA. It is set for March 7, 8 and 9.

Travelers will leave Grumman Friday, March 7 at 8 a.m. and return Sunday, March 9, arriving at 8 p.m. In between, they will visit the White House, the Capitol, Ford's Theater, Lincoln and Jefferson Memorials, Library of Congress, Supreme Court, Smithsonian, and President Kennedy's grave at Arlington National Cemetery.

Accommodations will be at the Quality Inn Governor, Falls Church, Va. The price per person is $140.50, single occupancy; $106.50, double, and $96, triple.

Additional information is available from Ellen Drasser, GAA; Ext. 2133 or 2269.

GRUMMAN plane news

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